

REMARKS

The office action of June 19, 2008 has been received and reviewed. Claims 1-4, 9, 10, 12, 14-17, 20-24, 29, 30, 32, 33, 35, 36, 40, 42 and 49 are currently pending and all claims stand rejected. Claims 1, 2, 14, 16, 23, 24, 40 and 49 have been amended, and new claims 90-98 have been added as set forth herein. All amendments and cancellations are made without prejudice or disclaimer. No new matter is added. Support for the new claims is found, *inter alia*, in the as-filed specification. Reconsideration is requested.

Rejections under 35 U.S.C. 112

Claims 1, 14, 23, 24, 40 and 49 stand rejected under 35 U.S.C. 112, second paragraph, as allegedly being indefinite due to insufficient antecedent basis for claim limitations. Claims 1, 14, 23, 24, 40 and 49 have been amended to correct antecedent basis issues, thus overcoming the rejection. Reconsideration is requested.

Rejections under 35 U.S.C. 103

Claims 1-4, 9, 10, 12, 14-17, 20-24, 29, 30, 32, 33, 35, 36, 40, 42 and 49 stand rejected under 35 U.S.C. 103(a) as assertedly being unpatentable over Lepper et al. (US 4,608,202) in view of Energea-Umwelttechnologie GMBH (WO 2002038529) (Energea), Canacki et al. (American Society of Agricultural Engineers 2001) (Canacki 1), Canacki et al. (ASAE Paper No. 016049, 2001) (Canacki 2) and Metallgesellschaft AG (EP 0523767) (Metall). Applicants respectfully traverse the rejections as set forth herein.

The Supreme Court of the United States indicated that a determination of obviousness should take into account the framework laid out in *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1 (1966). (See, KSR International Co. v. Teleflex Inc., et al., 550 US1 (2007)).

The MPEP at Section 2141 indicates that the *Graham v. John Deere Co.* inquiries are: (A) determining the scope and contents of the prior art; (B) ascertaining the differences between the prior art and the claims in issue; (C) resolving the level of

ordinary skill in the art; and (D) evaluating evidence of secondary considerations. (See, MPEP § 2141). In making obviousness determinations, the MPEP further indicates that the claimed invention must be considered as a **whole** and that the references must be considered as a **whole**. (See, *Id.*)

Further, the MPEP states that to reject a claim based on the rationale of combining prior art elements according to known methods to yield predictable results, the office personal must articulate a finding that the prior art included each element claimed. (See, MPEP § 2143(A)).

Following this guidance, the following paragraphs discuss what each of the cited references teaches as a whole.

Lepper as a whole is directed towards the synthesis of fatty acid esters of short-chain aliphatic alcohols of fats and oils with only minor amounts (12-30%) of free fatty acids in the starting material. This level falls far short of the range of free fatty acids in amended claim 1 (50-100%).

Energea as a whole is directed towards the conversion of mixtures of methyl esters and free fatty acids into methyl esters, not synthesis of esters from mixtures of triglycerides and free fatty acids as recited in amended claim 1.

Canikci 1 as a whole is directed towards synthesis of biodiesel from fats and oils containing only 12-40% free fatty acids. The unpredictability of the chemical arts dictate that extrapolation from free fatty acid levels of only 40%, to free fatty acid levels of 50% to 100% as in Applicants' amended claim 1 is unwarranted.

Canikci 2 is directed towards synthesis of biodiesel from fats and oils containing only free fatty acid levels up to 39.6%, but they do not have a dragging agent in their reaction as in Applicants' amended claim 1. One of skill in the art would not extrapolate from the monophasic system of Canikci 2 to the method reciting a dragging agent as in Applicants' amended claim 1.

Metall is directed towards only the transesterification reaction; it does not teach an integrated combination of acid esterification and basic transesterification as in Applicants' amended claim 1.

A *prima facie* case of obviousness cannot be established for amended claim 1 since none of the cited references discloses each and every element of amended claim 1. As amended, applicants' claim 1 is directed toward, *inter alia*, the synthesis of diesel fuel from triglyceride starting mixtures containing a free fatty acid content of 50-100% free fatty acids and a step of water washing the transesterification mixture in a separator using water recovered from the esterification and transesterification mixtures:

"1. A non-pressurized method for the continuous production of alkyl esters of higher fatty acids from fatty acid triglyceride starting mixtures containing **a free fatty acid content of 50% to 100%** free fatty acids, including an integrated combination of acid esterification and basic transesterification, said method comprising: ...

d) purification of the transesterification mixture via separation of the basic catalyst, unconverted C₁-to C₄-monoalcohol and the glycerine produced during transesterification, **by a treatment with water in at least one separator with subsequent drying**, wherein the C₁-to C₄-mono alcohol used for esterification, the dragging agent glycerin used for esterification and the **water used for purification of the transesterification mixture are at least partially recovered from the esterification and transesterification mixtures...**"

None of Lepper, Energea, Canikci 1, Canikci 2, nor Metall disclose that water used for purification of the transesterification mixture are at least partially recovered from the esterification and transesterification mixtures. Thus, none of Lepper, Energea, Canikci 1, Canikci 2, nor Metall disclose each and every element of amended claim 1. Thus, a *prima facie* case of obviousness cannot be established for amended claim 1.

Claims 2-4, 9, 10, 12, 14-17, 20-24, 29, 30, 32, 33, 35, 36, 40, 42 and 49 are non-obvious at the very least as depending from a non-obvious independent claim. (See, *In re Fine*, 837 F.2d 1071, 5USPQ2d 1596 (Fed. Cir. 1988)).

Reconsideration and withdrawal of the obviousness rejections of claims 1-4, 9, 10, 12, 14-17, 20-24, 29, 30, 32, 33, 35, 36, 40, 42 and 49 are requested.

CONCLUSION

Should the Office determine that additional issues remain which might be

resolved by a telephone conference, the Office is invited to contact the applicants' agent at the address or telephone number given herein.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Scott Bloomer".

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